

CLAIMS

We claim:

- 5 1. A system for illuminating and reading information on a target, the system comprising:
an illuminating device for illuminating the target;
separate from the illuminating device a user
10 wearable reader device for capturing an optical image of the target when illuminated by the illuminating device;
detector means for detecting the location of the reader device; and
15 adjustment means for adjusting the illumination provided by the illumination device in response to a signal provided by the detector means so that a region on the target illuminated by the illuminating means is readable by the reader device.
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2. A system according to claim 1, wherein the reader device is operable to read a bar code on the target.
- 25 3. A system according to claim 2, wherein the reader device is operable to convert the read bar code into an electronic data signal.

4. A system according to claim 3, wherein the system
also includes a radio transmitter associated with the
reader device which is operable to transmit the
5 electronic data signal produced by the reader device to
a remote radio receiver.

5. A system according to claim 1, wherein the reader
device is adapted to be carried on the wrist, hand,
10 finger or thumb of a user.

6. A system according to claim 5, wherein the reader
device includes a bracelet or strap to be attached to a
user's wrist, or a partly or fully closed ring to be
15 worn on a user's finger or thumb.

7. A system according to claim 5, wherein the
illuminating device is included in a unit which is
wearable by the user on another part of the user's
20 body.

8. A system according to claim 7, wherein the unit is
wearable on a user's chest or waist.

25 9. A system according to claim 1, wherein the
illuminating means is incorporated in a unit which also
incorporates a radio transceiver operable to receive
radio signals from a transmitter associated with the
reader device and to forward radio signals to a remote
30 receiver.

10. A system according to claim 1, wherein the detector means includes a reflector on the reader means and means for irradiating a region including the reader means with a search beam of radiation to be reflected
5 by the reflector when incident thereon.

11. A system according to claim 10, wherein the search beam comprises an infrared beam.

10 12. A system according to claim 10, wherein the detector means also comprises a sensor operable to detect radiation reflected by the reflector and to record the position of the search beam when reflected by the reflector.

15 13. A system according to claim 12, wherein one or both of the means for irradiating and the sensor are carried by a unit incorporating the illuminating means.

20 14. A system according to claim 1, wherein the detector means includes means for determining the location of the reader device by radio signals sent between a transmitter carried on the reader device and a separate receiver.

25 15. A system according to claim 14, wherein the separate receiver is carried on a unit incorporating the illuminating device.

16. A system according to claim 1, wherein the illuminating means comprises a light source comprising at least one solid state light cell.

5 17. A system according to claim 16, wherein the at least one light cell is selected from the group consisting of a light emitting diode and an electroluminescent cell.

10 18. A system according to claim 1, wherein the illuminating means includes a light source and is operable such that light from the light source is directed in the form of a beam by a beam director whose orientation may be adjusted.

15 19. A system according to claim 18 and wherein the beam director comprises a movable mirror, lens, or prism.

20 20. A system according to claim 19 and wherein the beam director comprises a mirror which may be orientated electro-mechanically.

25 21. A system according to claim 18, wherein the detector means includes means for irradiating a region including the reader device with a search beam, and the beam director included in the means for illuminating is also operable to direct the search beam.

22. A method of illuminating and reading information on a target comprising:

5 illuminating the target by an illuminating device;
 capturing an optical image of the target when illuminated by the illuminating device by a reader device separate from the illuminating device;
 detecting by detector means the location of the
10 reader device; and
 adjusting the illumination provided by the illumination device in response to a signal provided by the detector means so that a region on the target illuminated by the illuminating means is readable by
15 the reader device.

23. A unit for illuminating information on a target to be read by a reader device, the unit comprising:

20 an illuminating device for illuminating the target;
 detector means for detecting the location of the reader device; and
 adjustment means for adjusting the illumination provided by the illumination device in response to a
25 signal provided by the detector means so that a region on the target illuminated by the illuminating means is readable by the reader device.